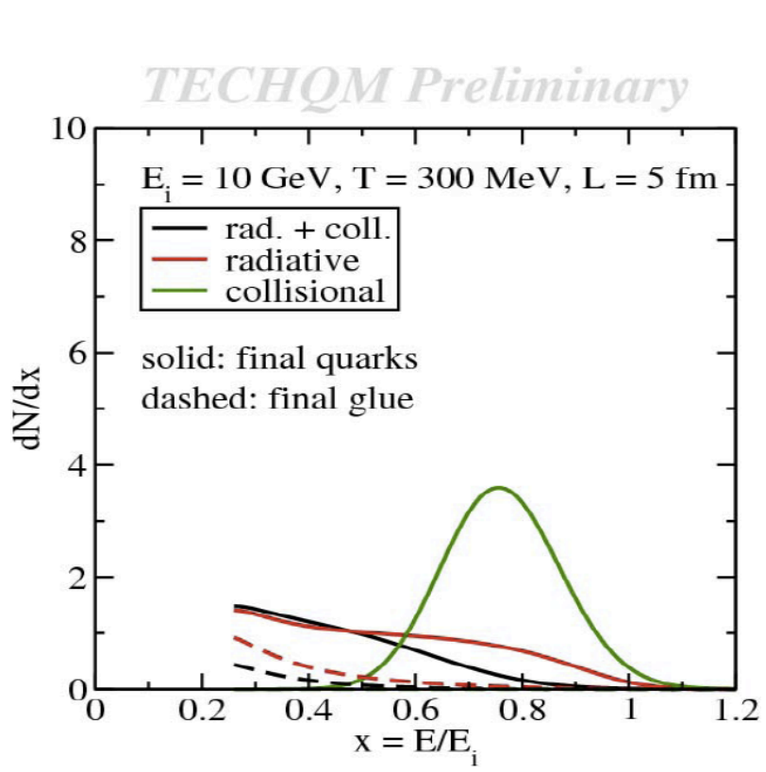
QGP Brick: What to do next?

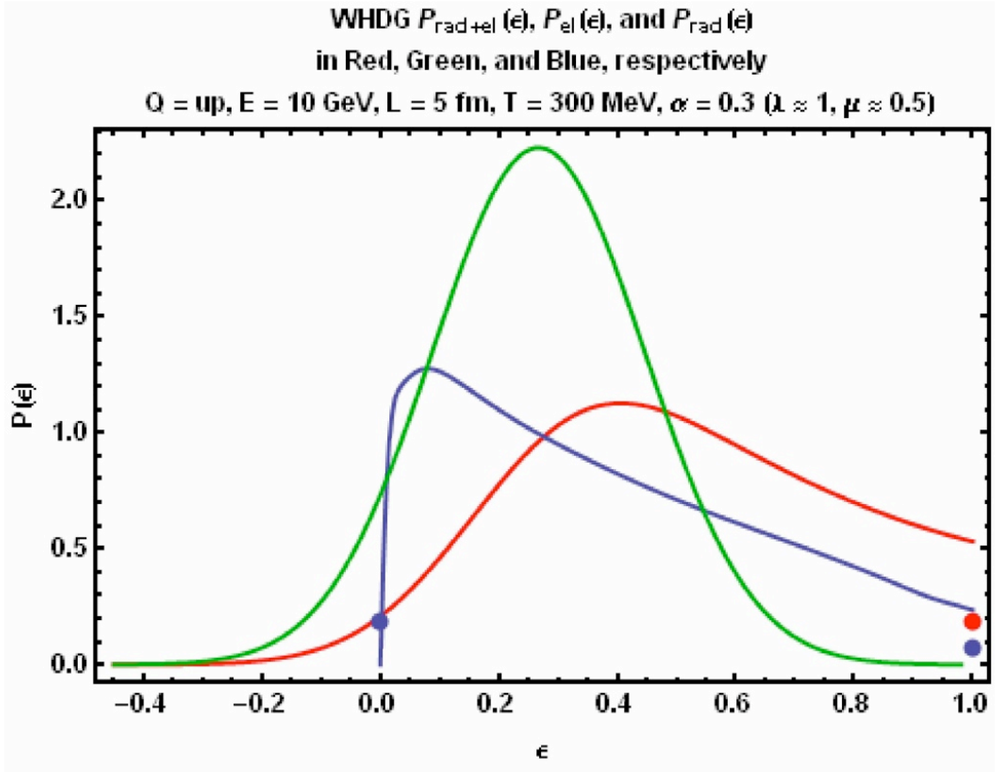
- Redesign comparison schemes
- ΔE Scheme:
  - Keep $\Delta E/E = \int dx\, x\, P(x)$ fixed
  - Intuitive, but overemphasizes poorly controlled $x \to 1$ region
- R scheme: $R(p) = f(p)^{-1} \int dx dz f\left(\frac{p}{(1-x)z}\right) D(z)P(x) \longrightarrow \int dx \rho(x) P(x)$

$$f(p) \sim p^{-n} \longrightarrow \rho(x) \sim (1-x)^n \int dz z^n D(z)$$

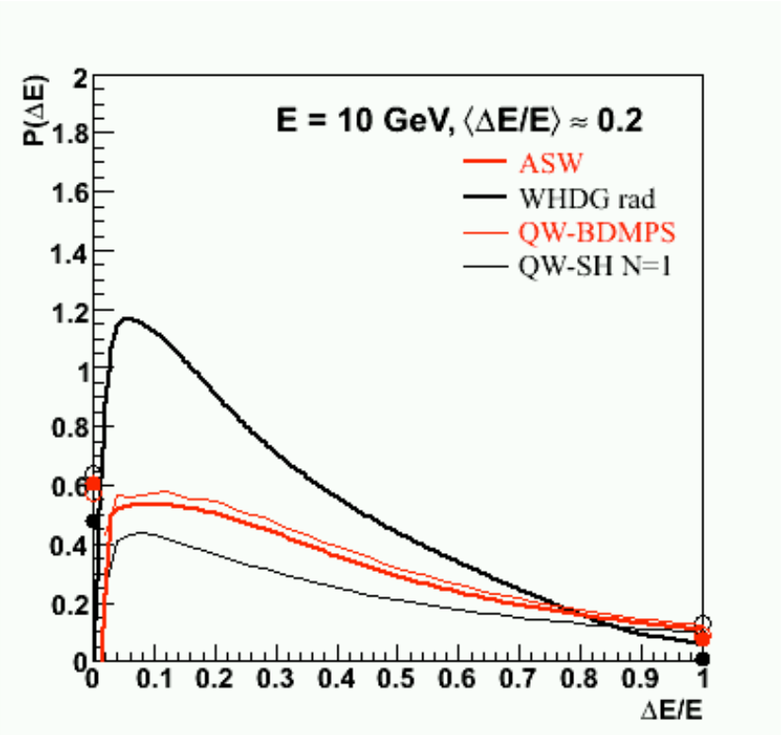
  - Strongly weights $x \to 0$ region
- Compare directly R_{AA} with correct hadronization

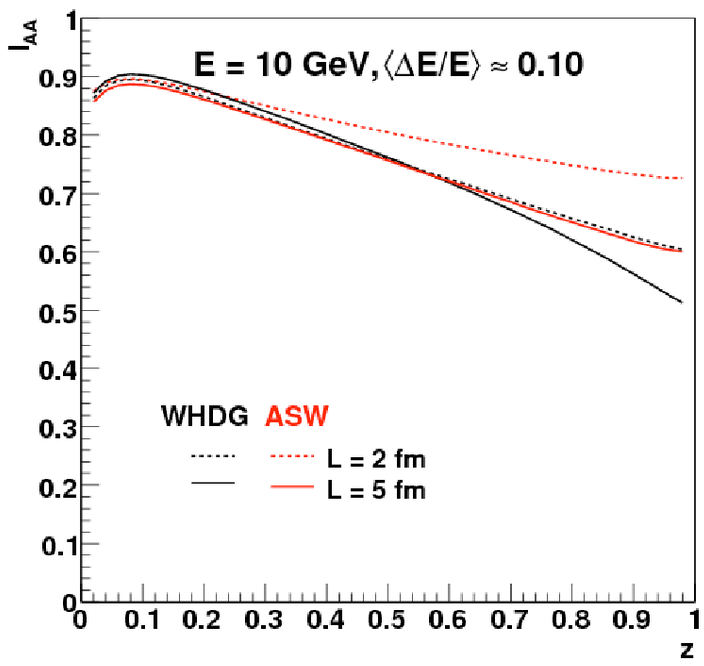
- WHDG and AMY are directly comparable:
  - Calculations can be done for same E, L, T, α_s. Compare the same observables in the same figure.
  - Make sure that apples are compared with apples: gluon medium only, check whether groups agree on q-hat (i.e. λ and μ^2).





- WHDG and ASW are directly comparable:
  - Calculations can be done for same E, L, α_s.
  - Compare in ΔE and in R schemes, and after R_{AA} after fragmentation.
  - Compare q-hat leading to same ΔE, R.
  - Compare R for same q-hat.
  - Explore, if x(1-x) kinematic constraint can be implemented in ASW.





- HT, AMY and WHDG are comparable:
  - Calculations can be done for same E, L, α_s, q-hat.
  - Compare R_{AA} after fragmentation.
  - Fix R_{AA} and compare q-hat for same E, L, α_s.